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ABSTRACT

A study was undertaken of transfer students in postseccndary institutions, based on data frca the base year and first and second followups of the National Longitudinal Study of the High School Class of 1972. Its specific objectives were to: (1) obtain national estimates of the number and proportion of students in the categories of four-year to four-year institution (4-4) transfers and two-year to four-year (2-4) transfers; (2) compare 4-4 transfers with students who entered and persisted in a single four-year institution; and (3) compare 2-4 transfers with students who entered and persisted in a single four-year institution and with students who remained in the two-year college. Important findings were that: (1) 4-4 transfers had better achievement in college and were higher in socioeconomic status, although their precollege aptitude tests were lower; (2) 2-4 transfers were extremely different from four-year nontransfers in almost every respect, presenting a profile of an average student with limited financial resources; and (3) 2-4 transfers had, however, significantly higher grades and SES scores than two-year college presisters. (Author/MSE)

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Transfers Among Postsecondary Education Institutions

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A. Background of the Study

Transferring from one college to another has become an increasingly important trend in higher education. A recent national estimate indicated that about 600,000 students move among different types of institutions annually (Willingham, 1973). This estimate includes students who transfer from two-year to four-year institutions or vice versa, as well as students who move among the same type of institution. This trend of transferring, particularly between two-year and four-year institutions, is likely to grow because of the expansion of community colleges and the financial pressures of four-year college attendance (Watson, 1974; Anderson and Peterson, 1973).

This growing trend raises several questions concerning transfer students. Of particular interest in this paper are the characteristics of the two largest transfer groups (4 → 4, and 2 → 4) and how they differ from their nontransferring counterparts.

Previous transfer research has provided little information that can be generalized to all institutions of higher education, since most studies have been limited to a specific instituton or geographic region (e.g., Anderson and Riehl, 1971; Hodgson and Dickinson, 1974; Davis and Balfour, 1973). While those studies are valuable to the specific institutions studied, they do not provide a national picture of the transfer phenomenon, nor do they provide a sufficient basis for national policymaking. A large-scale study involving a representative sample of institutions is a prerequisite to answering questions regarding transfer students in higher education at the national level.

In addition, not much is known about the characteristics of transfer students and how they differ from their nontransferring counterparts (Kintzer, 1973). A comprehensive investigation of the differences between nontransfer and transfer students in background and individual

characteristics is needed to provide some information on which national educational programs to meet transfer student needs might be based.

B. Purposes of the Study

The primary purpose of this study is to estimate the proportion of transfer student in various categories and to explore some potential explanations of the transfer phenomenon. Specifically, this paper was designed to accomplish the following objectives:

1) To obtain national estimates of the number and proportion of students in the 4 → 4 and 2 → 4 transfer categories;
2) To compare students who transferred from a four-year college to another four-year college (4 → 4 transfers) with those who enrolled in a four-year college immediately after high school and persisted in the same institution.
3) To compare students who transferred from a two-year to a four-year college with those that enrolled in a four-year college immediately after high school and persisted in the same institution, and those who were still enrolled two years later in the same two-year college.

C. The Date Base

The data used in this study were drawn from the base-year and the first and second follow-up data of the National Longitudinal Study of the High School Class of 1972 (NLS). The NLS data base is comprehensive; and its longitudinal design, based upon a national probability sample, permits analyses that provide information about the psychological, educational, and career development of people in their early adulthood. The NLS was designed to discover what happens to young people after they leave high school and to relate this information to their prior education experiences and their personal and biographical characteristics. Educational and work experiences, plans, aspirations, attitudes, and personal background characteristics were measured at three points in time on a sample of over 20,000 high school seniors of the class of 1972. The base-year data were collected in the spring of 1972, the first follow-up data were collected in the fall and winter of 1973-74, and the second follow-up data were collected in the fall and winter of 1974-75.

Of the NLS participants who answered the first follow-up survey, about 50 percent were enrolled in about 1,800 diverse institutions of higher

education in the fall of 1972 (6,196 in four-year colleges and 3,080 in two-year colleges). Some of those students failed to provide information about their education in the fall of 1973 or failed to continue their participation in the second follow-up survey, and consequently their educational status could not be determined for the fall of 1973 or 1974 and hence their transfer status could not be ascertained. The final number of college students retained for this study was 8,892 (5,974 initially enrolled in four-year colleges and 2,918 initially enrolled in two-year colleges). Thus, data about transfer status was available for 96 percent of the students who enrolled in a higher educational institution.

D. Extent of Transferring

Previous studies have not provided a consistent natonal picture about college transfers. For example, one study (Holstrom and Bisconti, 1974) found that about 52 percent of full-time two-year college students transferred to four-year istitutions over a four-year period, while another (van Alstyne et al., 1973) found that about 36 percent of two-year college full-time students transferred to four-year colleges over a similar time period. Burt (1972) indicated that new transfer students in 196[illegible] numbered about 456,000, while Willingham (1972) estimated the number to be 600,000 annually. The inconsistencies may reflect the changes of college-going trends in recent years, or they may reflect the nonrepresentative samples of institutions or students studied. Thus, current information about transferring is needed from a national sample of students attending a representative sample of institutions.

The estimation of the total percentage and the number of students who transferred among colleges over a two-year period requires careful consideration of changes in student college-going status. Four possible transfer groups are specified in Table 1. The specifications indicate the type of initial and final colleges. Thus, a student who entered a four-year college, transferred to a two-year college, and then transferred back to a four-year college would be indicated by a 4 → 4 transfer as would one direct transfer between four-year colleges.

The total percentages and numbers of students for the transfer groups are summarized in Figure 1. Two years after initial matriculation,

Table 1

TRANSFER SPECIFICATION

Transfer Group	College-Going Status		
	October 1972	October 1973	October 1974
1. 4→4 Transfers			
	4	C	D4
	4	D4	C
	4	D4	D4
	4	2	4
	4	W	D4
2. 2→2 Transfers	2	C	D2
	2	D2	C
	2	D2	D2
	2	4	2
	2	W	D2
3. 4→2 Transfers	4	C	2
	4	D4	2
	4	2	C
	4	2	D2
	4	W	2
4. 2→4 Transfers	2	C	4
	2	D2	4
	2	4	C
	2	4	D4
	2	W	4

Note: 4 = 4-year college

2 = 2-year college

D = Different 4-year or 2-year college

C = Continuing in the same college

W = Withdrawing from study

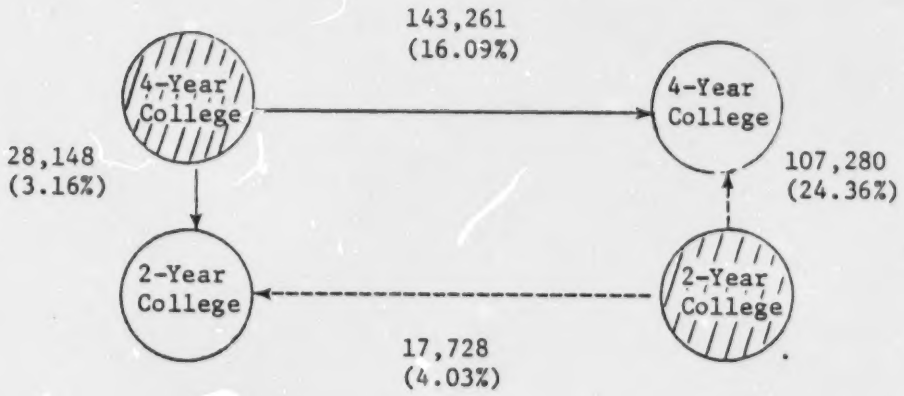

Figure 1. Total percentages and estimated number of students who transferred over two years. Initial college is indicated by shaded circle.

Note: Sample N for four-year college students was 5974, and for two-year college students it was 2918.

slightly over 24 percent of two-year college students transferred to four-year colleges. (It should be noted that about 52 percent left school, and 24 percent were still in two-year colleges.) Those transfers constituted about 14 percent of the total four-year college enrollment. The proportion of two-year college students who transferred to four-year institutions was consistent with findings of some previous studies (e.g., van Alstyne, 1974). However, the total number of transfers was smaller than that estimated by Willingham (1972), based upon regional or institutional studies.

About three percent of the four-year college students moved to two-year colleges. Figure 1 also shows that about 16 percent of four-year college students moved among four-year colleges over two years. The total number of such 4 → 4 transfers was slightly greater than that of the 2 → 4 transfers.

E. Comparisons Between Four-Year College Transfers and Nontransfers

The weighted means and common standard deviations (i.e., pooled across groups) of the background variables are presented in Table 2. Several variables were zero-one dichotomies for which the means are proportions of students having the related background characteristic. For example, the value of .47 in the first column of Table 2 indicates that 47 percent of persisters were female students. All continuous variables such as SES and aptitude test scores were coded from low to high. The test statistics for the comparison of four-year college transfers and nontransfers are presented in Table 3.

Persisters and 4 → 4 transfers were different with respect to their overall background (the multivariate F-ratio of 2.83 was significant at the .001 level with 12 and 3231 degrees of freedom, see Table 3). The differences were particularly substantial for SES, sex, and college grades (see the univariate F-ratios for these variables in Table 3). The differences on these variables still existed even when some prior variables were controlled (i.e., the step-down F-ratios on these variables were still significant at the .05 level). After SES, sex, race, and high school grades were considered, persisters had significantly higher aptitude test scores than transfers.

Table 2

WEIGHTED MEANS AND STANDARD DEVIATIONS FOR VARIOUS COLLEGE-GOING STATUS GROUPS ON BACKGROUND VARIABLES (FOUR-YEAR COLLEGES)

Background Variables[1]	Persisters	4 → 4 Transfers	Common Standard Deviation[2]
SES	.45	.52	.69
Female (vs. male)	.47	.57	.50
Black (vs. nonblack)	.06	.04	.23
Hispanic (vs. non-Hispanic)	.01	.01	.12
High school grades	6.65	6.65	1.15
Academic aptitude test scores	58.26	57.85	5.73
Educational aspiration	5.68	5.64	.62
Academic high school program (vs. general and voc-tech)	.84	.82	.39
College grades	5.79	5.93	1.32
Academic field of study (vs. nonacademic)	.95	.95	.25
South (vs. others)	.25	.24	.44
West (vs. others)	.14	.15	.35
N[3]	1948	547	3246

1/ SES is a composite score with a mean of 0 and standard deviation of 1. Aptitude test scores are standardized scores with a mean of 50 and standard deviation of 10. High school and college grades were coded as follows: mostly A = 8; about half A and half B = 7; mostly B = 6; about half B and half C = 5; mostly C = 4; about half C and half D = 3; mostly D = 2; and mostly below D = 1. Educational aspirations were coded as follows: less than high school = 1; high school = 2; some vocational studies beyond high school - 3; two-year college = 4; four-year college = 5; and graduate school = 6.

2/ The squares of these values are within-group means of squares (the error terms for univariate analysis).

3/ The differences in sample size in this analysis and previous analyses were due to missing data on background variables, primarily because of nonparticipation in the base-year survey.

Table 3

TEST STATISTICS FOR THE COMPARISON BETWEEN PERSISTERS AND 4→4 TRANSFERS

Variable	Univariate F[1] (d.f. = 1, 3242)	Step-Down F[2]	Standardized Discriminant Function Coefficients[3]
SES	4.06*[4]	4.06*	.44
Female (vs. Male)	15.46**	16.29**	.66
Black (vs. Nonblack)	1.18	.73	-.26
Hispanic (vs. non-Hispanic)	.00	.09	-.00
High School Grades	.00	1.05	-.15
Academic Aptitude Test Scores	2.17	5.02*	-.51
Educational Aspiration	1.88	.70	-.14
Academic High School Program (vs. General and Voc-Tech)	.43	.02	-.03
College Grades	5.09*	5.78*	.47
Academic Field of Study (vs. Nonacademic)	.12	.03	.03
South (vs. Others)	.22	.09	-.04
West (vs. Others)	.29	.05	.04
	Multivariate F = 2.83 (d.f. = 12, 3231) $p < .001$		$\chi^2_{(12)} = 33.81$ $p < .001$

Note: 1. Within-group variance is shown in Table 8.

2. Variables are listed in the order in which the step-down analysis was performed. Thus, the step-down F shows the significance of the indicated dependent variable, controlling for all variables listed above it.

3. The sign of the discriminant function coefficients shows the direction of relationship. A positive sign indicates that transfers were higher on the dependent variables than were persisters.

4. *$p < .05$; **$p < .01$

The discriminant function coefficients show that the variables SES, sex, aptitude test, and college grades carried greater weights than other variables in differentiating the persisters from 4 → 4 transfers. As indicated by the sign of the coefficients and statistics in Table 2, the 4 → 4 transfer group was composed of more female students than the persister group. This indicates that more female than male students transferred among four-year colleges. The 4 → 4 transfer students also tended to be higher on SES and college achievement than persisters after other variables were considered. The groups were about one-tenth of a standard deviation apart on both variables. However, it should be noted that 4 → 4 transfer students had lower aptitude test scores than persisters. It may be possible that the lower aptitude test scores of 4 → 4 transfer students prohibit some of them from getting into the kind of institution they like, and transferring becomes an alternative solution. The results suggest that those students moving among the four-year colleges were students who had the qualifications for greater mobility--high SES background which reduces financial pressure, and high achievement which would be accepted by other colleges. However, why there were more female than male 4 → 4 transfers is unknown. It might be that female students have more difficulty than do males in finding a suitable opportunity for career development or a satisfactory social life on campus.

F. Comparisons Between Two- to Four-Year College Transfers and Those Who Remained in Two-Year Colleges

The same techniques used in the comparisons of the four-year college students were employed for the analyses of the two-year college students. The weighted means and the pooled standard deviations on the selected background variables are presented in Table 4, and the test statistics for the group comparisons are included in Table 5.

Students who moved to the four-year colleges were quite different from those who remained in the two-year colleges (see Table 5). The differences were significant on almost every individual variable except sex and black-versus-nonblack (the univariate F-ratios for those two variables were not significant at the .05 level). It can be seen from Table 4 that 2 → 4 transfers had a higher SES level, were composed of

Table 4

WEIGHTED MEANS AND STANDARD DEVIATIONS FOR VARIOUS COLLEGE-GOING STATUS GROUPS ON BACKGROUND VARIABLES (TWO-YEAR COLLEGES)

Background Variables[1]	Persisters	2 → 4 Transfers	Common Standard Deviation[2]
SES	.10	.29	.62
Female (vs. male)	.43	.45	.50
Black (vs. nonblack)	.03	.03	.17
Hispanic (vs. non-Hispanic)	.06	.01	.19
High school grades	5.61	6.11	1.22
Academic aptitude test scores	53.35	55.02	6.20
Educational aspiration	5.04	5.38	.95
Academic high school program (vs. general and voc-tech)	.54	.67	.49
College grades	5.40	6.02	1.31
Academic field of study (vs. nonacademic)	.76	.80	.44
South (vs. others)	.19	.29	.42
West (vs. others)	.43	.24	.45
N[3]	253	360	1291

[1] SES is a composite score with a mean of 0 and standard deviation of 1. Aptitude test scores are standardized scores with a mean of 50 and standard deviation of 10. High school and college grades were coded as follows: mostly A = 8; about half A and half B = 7; mostly B = 6; about half B and half C = 5; mostly C = 4; about half C and half D = 3; mostly D = 2; and mostly below D = 1. Educational aspirations were coded as follows: less than high school = 1; high school = 2; some vocational studies beyond high school = 3; two-year college = 4; four-year college = 5; and graduate school = 6.

[2] The squares of these values are within-group means of squares (the error terms for univariate analysis).

[3] The differences in sample size in this analysis and previous analyses were due to missing data on background variables, primarily because of nonparticipation in the base-year survey.

Table 5

TEST STATISTICS FOR THE COMPARISON BETWEEN
2→4 TRANSFERS AND STUDENTS WHO REMAINED IN TWO-YEAR COLLEGES
(i.e., PERSISTERS AND 2→2 TRANSFERS)

Variable	Univariate F[1] (d.f. = 1, 1286)	Step-Down F[2]	Standardized Discriminant Function Coefficients[3]
SES	9.29**[4]	9.29**	.26
Female (vs. Male)	.66	.90	-.02
Black (vs. Nonblack)	.38	.03	.01
Hispanic (vs. non-Hispanic)	12.84**	9.46**	-.24
High School Grades	29.34**	31.20**	.37
Academic Aptitude Test Scores	19.71**	2.28	.03
Educational Aspiration	8.92**	3.60	.14
Academic High School Program (vs. General and Voc-Tech)	6.81*	.82	.02
College Grades	34.57**	12.52**	.48
Academic Field of Study (vs. Nonacademic)	16.99**	10.00**	.33
South (vs. Others)	5.77*	4.67*	.12
West (vs. Others)	10.48**	7.08*	-.32
	Multivariate F = 7.85 (d.f. = 12, 1275) $p < .001$		$\chi^2_{(12)} = 91.23$ $p < .001$

Note: 1. Within-group variance is shown in Table 10.

2. Variables are listed in the order in which the step-down analysis was performed. Thus, the step-down F shows the significance of the indicated dependent variable, controlling for all variables listed above it.

3. The sign of the discriminant function coefficients shows the direction of relationship. A positive sign indicates that transfers were higher on the dependent variables than were students who remained in the two-year college.

4. *p < .05; **p < .01

fewer Hispanics, had higher high school and college grades, and were more likely to major in academic fields than were those who remained in the two-year college. The percentage of students in the West who persisted in two-year colleges was greater than the percentage of those who transferred to four-year colleges. The opposite pattern held true for the South.

Some of these differences, however, became insignificant when some prior variables were held constant. As shown by the step-down statistics, 2 → 4 transfers may be a result of higher academic qualifications. A number of reasons might explain why these students transferred to a four-year school. Many of the 2 → 4 transfers no doubt were students who aspired to a four-year college education, but such reasons as inadequate preparation in high school or inadequate academic qualifications led them to enroll in a two-year college initially. There might be some financial considerations involved since two-year colleges are generally less expensive than four-year colleges. There might also be some decision problems. Many students may not know what they want to study or what they want to do in the future; thus, they simply use a two-year college as a way station until their goals are set.

G. Comparisons Between 2 → 4 Transfers and Four-Year College Native Students

Going to a two-year college initially and then transferring to a four-year college, rather than enrolling in a four-year college immediately after high school, is considered by many students as a satisfactory strategy for attaining a higher education. A recent study by the Carnegie Commission of Higher Education (1970) revealed that over two-thirds of the students entering two-year colleges intended to transfer to four-year colleges. The NLS data indicated that about a quarter of the two-year college students did transfer to four-year colleges within two years. Therefore, it is informative to examine the characteristics of the students taking these two alternate paths, and to compare them on a number of important variables.

The 2 → 4 transfers and four-year college native students[1/] were compared on the following variables:

1) Background characteristics: sex, race, and socioeconomic background;
2) Region where the student graduated;
3) High school programs;
4) Academic performance: high school grades, aptitude test scores;
5) Educational aspirations;
6) Self-concept and locus of control;
7) Life goals: work, community, and family-oriented life goals.

The variables of self-concept, locus of control, and life goals were psychometrically-constructed scales, measured when the students were seniors in high school. They were included on the assumption that they might influence an individual's choice of different educational or career paths. Both self-concept and locus of control were measured on a five-point scale. A high score on locus of control indicated a high degree of internality; a low score, a high degree of externality. A high score on self-concept indicated positive self-concept. Life goals were composites based upon items with a three-point scale, ranging from not important (1), to very important (3). Other selected variables, such as SES and educational aspiration, were specified earlier; the same definitions were applicable to the analysis in this section.

The weighted means and common standard deviations on the selected variables are presented in Table 6. The test statistics (F-ratios) of the group differences are included in Table 7. As expected, these two groups of students differed in their backgrounds and characteristics. (The multivariate F-ratio of 19.00 is significant at the .001 level with 15 and 2792 degrees of freedom.) The univariate F-ratios in Table 7 show that native and transfer students in four-year colleges differed significantly on most of the selected varibles. Native students tended to have higher SES scores, high school grades, aptitude, and educational aspiration

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1/ Native students were those students who attended four-year colleges immediately after high school graduation and who, after two years, persisted in four-year colleges or who transferred to other four-year colleges.

Table 6

WEIGHTED MEANS AND COMMON STANDARD DEVIATIONS OF THE SELECTED VARIABLES FOR NATIVE AND 2→4 TRANSFER STUDENTS

Variable	Means		Common Standard Deviation
	Native	Transfer	
1. SES	.47	.29	.69
2. Female (vs. Male)	.49	.45	.50
3. Black (vs. Nonblack)	.05	.03	.22
4. Hispanic (vs. Non-Hispanic)	.01	.01	.12
5. High School Grades	6.66	6.11	1.14
6. Aptitude Test	58.06	54.80	5.66
7. Educational Aspiration	5.68	5.39	.56
8. Academic High School Program (vs. Nonacademic)	.84	.68	.38
9. Self-Esteem	4.02	3.91	.64
10. Locus of Control	4.07	3.96	.59
11. Work Life Goals	2.47	2.53	.37
12. Community Life Goals	2.10	2.14	.47
13. Family Life Goals	.94	.98	.40
14. South (vs. Non-South)	.25	.29	.44
15. West (vs. Non-West)	.13	.24	.34
N	2451	357	

Table 7

TEST STATISTICS FOR THE DIFFERENCES BETWEEN
NATIVE STUDENTS AND 2→4 TRANSFERS ON THE SELECTED VARIABLES

Variable	Univariate F[1] (d.f. = 1, 2806)	Step-Down F[2]	Standardized Discriminant Function Coefficients[3]
1. SES	20.98**[4]	20.98**	.24
2. Female (vs. Male)	1.90	2.38	.05
3. Black (vs. Nonblack)	5.14*	10.25**	.39
4. Hispanic (vs. Non-Hispanic)	.01	1.16	.17
5. High School Grades	72.11**	77.18**	.32
6. Aptitude Test	102.80**	55.88**	.36
7. Educational Aspiration	86.49**	36.82**	.37
8. Academic High School Program (vs. Nonacademic)	55.29**	16.56**	.20
9. Self-Esteem	9.33**	.28	-.06
10. Locus of Control	11.82**	.01	.00
11. Work Life Goal	7.65*	1.86	-.07
12. Community Life Goal	1.72	.73	-.05
13. Family Life Goal	4.25*	.74	-.04
14. South (vs. Non-South)	3.51	3.73	-.24
15. West (vs. Non-West)	33.99**	46.06**	-.44
	Multivariate F = 19.00 d.f. = 15, 2792 p<.001		$\chi^2_{(15)} = 272.12$ p<.001

Note: 1. Within-group variance is shown in Table 12.

2. Variables are listed in the order in which the step-down analysis was performed. Thus, the step-down F shows the significance of the indicated dependent variable, controlling for all variables listed above it.

3. The sign of the discriminant function coefficients shows the direction of relationship. A positive sign indicates that native students were higher on the dependent variables than were 2→4 transfers.

4. *p < .05; **p < .01

than transfer students. This finding was consistent with previous findings (e.g., Kintzer, 1973; Brinbaum, 1970). Native students were more likely than were transfer students to have been graduated from high school academic programs, to have higher self-concepts, and to be more internal in locus of control. On the other hand, transfer students had higher scores on work-oriented and family-oriented life goals than native students, and were composed of proportionally more nonblack students. In addition, there were proportionally more transfers than native students in the West than in other regions.

Because the selected variables are, in general, correlated with each other, the difference between native and transfer students on a certain variable may be confounded by other variables. To explore further the differences between these two groups of students, the selected variables were ordered for a step-down analysis of variance which indicates the statistical significance of the group differences on a variable, holding prior variables constant. The step-down F-ratios in Table 7 indicate that the findings from the univariate F tests (except those relating to self-esteem, locus of control, and life goals) still held. That is, native students had higher scores on SES, high school grades, aptitude tests, and educational aspirations than did transfer students, after controlling for prior variables; also, transfer students were composed more of nonblack students and students from the West than were native students.

The relative importance of individual variables in differentiating native and transfer students can be measured by the standardized discriminant function coefficients. Based on these coefficients as shown in Table 7, those variables that were significant in the step-down analysis carried greater weights in differentiating the two groups of students.

In summary, it is concluded that native students were very different from 2 → 4 transfers. Native students appeared to come from higher SES families and to have higher scores on ability, academic achievement, and aspiration. This finding is consistent with that of Holmstrom and Bisconti (1974). Native students probably planned to go to four-year colleges early in high school, since they were graduated from high school college-preparatory programs in much larger proportions than transfer students.

The high proportion of transfer students in the West may be a result of the fact that there are more two-year colleges in the West, and thus a greater proportion of students selected that path for obtaining higher education.

It is possible that many of the 2 → 4 transfer students might not have had adequate preparation in high school for a four-year college education immediately after high school graduation. The two-year institutions, which generally accept students of lower achievement, provide opportunities for those students to improve their academic ability and perhaps to focus on future goals. Also, many low-SES students may have originally attended two-year colleges to reduce the cost of education.

The two-year college may serve as a "warming-up place" for many students to readjust their plans and goals and to obtain additional academic preparation for further study. Going to a two-year college first, and then transferring to a four-year college, has become an alternative route to a college degree for students of lower SES, students of middle academic performance (e.g., Holmstrom and Bisconti, 1974), and perhaps students without clear career goals.

H. Summary

This paper presented estimates of transfer rates based on a national probability sample. Various transfer groups were described and contrasted with relevant comparison groups. Important findings were: (1) 4 → 4 transfers had better academic achievement in college and were higher in socioeconomic status although their precollege aptitude tests were lower; (2) 2 → 4 transfers were extremely different from four-year nontransfers in almost every respect, presenting a profile of an average student with limited financial resources; (3) 2 → 4 transfers had, however, significantly higher grades and SES scores than two-year college persisters.

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